



### **Toshiba releases photovoltaic-output photocoupler for automotive and industrial equipment**

Provides isolated gate drive voltage for high-side and back-to-back MOSFETs without secondary-side power supply

**Düsseldorf, Germany, 21<sup>st</sup> April 2026** – Toshiba Electronics Europe GmbH (“Toshiba”) announces the launch of the TLX9920, a photovoltaic-output photocoupler designed to provide an isolated gate drive voltage for power MOSFETs, particularly high-side and back-to-back configurations used in solid-state relays (SSRs). Applications include automotive battery management systems (BMS), onboard chargers (OBC), inverters, and other high-voltage subsystems, as well as energy storage systems (ESS) and industrial power control equipment.

As automotive and industrial systems continue shifting from mechanical relays to solid-state relays, designers require reliable, highly isolated gate drive solutions that eliminate the need for secondary-side power supplies. The new TLX9920 generates the gate drive voltage directly from its photovoltaic output, enabling simplified circuit design while maintaining reinforced isolation between control and power domains.

The TLX9920 is optimised for driving high-voltage power MOSFETs in SSR applications. When paired with external MOSFETs, it enables high-voltage, high-current switching that is difficult to achieve with conventional photorelays. Unlike mechanical relays, SSRs have no physical contacts, eliminating contact wear, reducing maintenance requirements, and improving long-term reliability. The device is qualified to the AEC-Q101 automotive reliability standard.

Housed in a thin SO6L package (3.84mm × 10.0mm × 2.1mm), the TLX9920 features a minimum creepage distance of 8mm and a high isolation voltage rating of 5000Vrms (min.). This makes it suitable for applications requiring reinforced insulation. For example, IEC 60664-1 specifies that a creepage distance of 8mm may be required for systems

operating at 400V or higher in pollution degree 2 environments - requirements that the TLX9920 meets.

With a minimum open-circuit voltage ( $V_{oc}$ ) of 13.5V and minimum short-circuit current ( $I_{sc}$ ) of 8 $\mu$ A at a forward current ( $I_F$ ) of 10mA, the TLX9920 provides sufficient gate drive capability for MOSFET control without the need for an additional isolated bias supply. Its integrated discharge circuit further simplifies design and ensures reliable turn-off performance.

For more information about the new TLX9920 photovoltaic-output photocoupler, please visit: <https://toshiba.semicon-storage.com/eu/semiconductor/product/isolators-solid-state-relays/detail.TLX9920.html>

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#### **About Toshiba Electronics Europe**

[Toshiba Electronics Europe GmbH](#) (TEE) offers European consumers and businesses a wide variety of hard disk drive (HDD) products plus semiconductor solutions for automotive, industrial, IoT, motion control, telecoms, networking, consumer and white goods applications. Next to HDDs, the company's broad portfolio encompasses power semiconductors and other discrete devices ranging from diodes to logic ICs, optical semiconductors as well as microcontrollers and application specific standard products (ASSPs) amongst others. In addition, TEE offers SCiB™ battery cells and modules with lithium titanium oxide (LTO) for heavy-duty applications.

TEE has its headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom providing marketing, sales and logistics services.

Visit Toshiba's websites at [www.toshiba.semicon-storage.com](http://www.toshiba.semicon-storage.com) and [www.scib.jp/en](http://www.scib.jp/en) for further company and product information.

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